

ABSTRACT OF THE DISCLOSURE

A method for investigating structural integrity utilizes a carrier member having a flexible surface and a plurality of electromechanical transducer elements attached to the carrier member, the transducer elements being spaced from each other along at least two spatial dimensions. The method includes conforming the flexible surface to a solid structural member, so that a substantial portion of the flexible member is in effective wave-transmitting engagement with the structural member, thereafter transmitting pressure waves from at least one of the transducer elements into the structural member, receiving pressure waves reflected from an internal structural defect in the structural member in response to the pressure waves transmitted from the one of the transducer elements, and analyzing the received pressure waves so as to detect the structural defect.